# SA-VE702/VE705/ WMS7/SS-MS7

# SERVICE MANUAL

**Ver. 1.2 2005.01**

*US Model*
*Canadian Model*
*SA-VE705/WMS7/SS-MS7*
*AEP Model*
*UK Model*
*E Model*

The SA-VE702 system consists of one unit of SA-WMS5 and two units of SS-MS7.
The SA-VE705 system consists of one unit of SA-WMS7 and five units of SS-MS7.

Photo : SA-WMS7 Photo : SS-MS7

## SPECIFICATIONS

### AUDIO POWER SPECIFICATIONS:

**US model**

POWER OUTPUT AND TOTAL HARMONIC DISTORTION :
with 8 Ω loads, both channels driven, from 20 - 150Hz; rates 120 W per channel minimum RMS power, with no more than 0.8% total harmonic distortion from 250 mW to rated output.

### SS-MS7 (front, center, and rear speakers)

| | |
|---|---|
| Speaker system | 2 way, magnetically shielded |
| Speaker units | |
| Tweeter : | 1.9 cm (3/4 in.), dome type |
| Woofer : | 5 cm (2 in.)× 2, balanced drive type |
| Enclosure type | Bass reflex |
| Rated impedance | 8 Ω |
| Power handling capacity | |
| Maximum input power: | 140 W |
| Sensitivity level | 87 dB (1W, 1m) |
| Frequency range | 120 Hz - 40,000 Hz |
| Dimensions (w/h/d) | |
| When attached speaker grilles: | Approx. 86 × 169 × 130 mm (3 1/2 × 6 3/4 × 5 1/8 in.) each |
| When attached to supplied speaker stand: | Approx. 96 × 207 × 141 mm (3 7/8 × 8 1/4 × 5 5/8 in.) each (Front (and rear)speakers) Approx. 169 × 131 × 144 mm (6 3/4 × 5 1/4 × 5 3/4 in.), (Center speaker: pointed upwards) Approx. 169 × 118 × 141 mm (6 3/4 × 4 3/4 × 5 5/8 in.), (Center speaker: pointed downwards): |
| Mass | |
| When attached speaker grilles: | Approx. 1.3 kg (2lb 14oz) each |
| When attached to supplied speaker stand: | Approx. 1.4 kg (3lb 1oz) each, (Front (and rear) speakers) Approx. 1.4 kg (3lb 1oz)(Center speaker) |

### SS-WMS7 (subwoofer)

**System**

| | |
|---|---|
| Speaker system | Active subwoofer, magnetically shielded |
| Speaker unit | Woofer : 20 cm (8 in.), cone type |
| Enclosure type | Advanded SAW type |
| Practical maximum output | 120 W |
| Reproduction frequency range | 24 Hz - 150 Hz |

**Inputs**

LINE IN (input pin jack)
SPEAKER IN (input terminals)

**Outputs**

LINE OUT (output pin jack)
SPEAKER OUT (output terminals)

**General**

| | |
|---|---|
| Power requirements | |
| USA and Canada : | 120 V AC, 60 Hz |
| Europe : | 220 - 230 V AC, 50/60 Hz |
| Others : | 220 - 240 V AC, 50/60 Hz |
| Power consumptions | 80 W |
| Dimensions (w/h/d) | Approx. 230 × 380 × 470 mm (9 1/8 × 15 × 18 5/8 in.), including front grille |
| Mass | Approx. 17 kg (37 lb 8oz) |

### Supplied accessories

**SA-VE705**

Speaker stands (for the front and rear speakers) (4)
Speaker stand (for the center speaker) (1)
Screws (for the speaker stands) (10)
Washers (for the speaker stands) (10)
Brackets (for the front and rear speaker stands) (4)
Speaker grilles (5)
Audio connecting cord (1)
Speaker connecting cords, 2.5 m(8 ft2 1/2 in.) (5)
Speaker connecting cords, 10 m(32 ft9 3/4 in.) (2)

**SA-VE702**

Speaker stands (for the front speakers) (2)
Screws (for the speaker stands) (4)
Washers (for the speaker stands) (4)
Brackets (for the front speaker stands) (2)
Speaker grilles (2)
Audio connecting cord (1)
Speaker connecting cords, 2.5 m(8 ft2 1/2 in.) (4)

Design and specifications are subject to change without notice

## MICRO SATELLITE SYSTEM

**9-928-978-13** **Sony Corporation**
2005A16-1 **Audio Group**
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**Published by Sony Engineering Corporation**

SONY

# SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

## LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

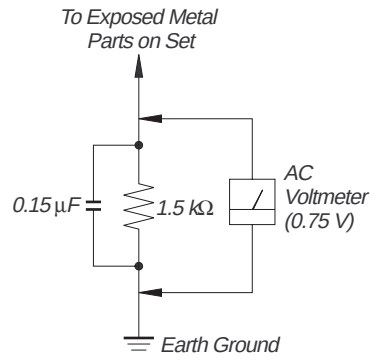



*Fig. A. Using an AC voltmeter to check AC leakage.*

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

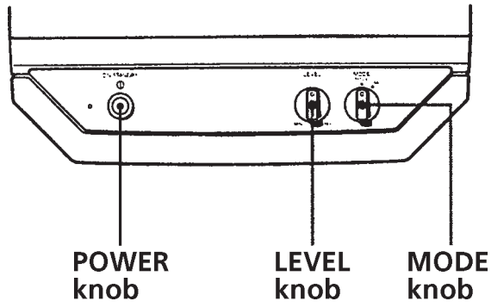
**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**

**LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.**

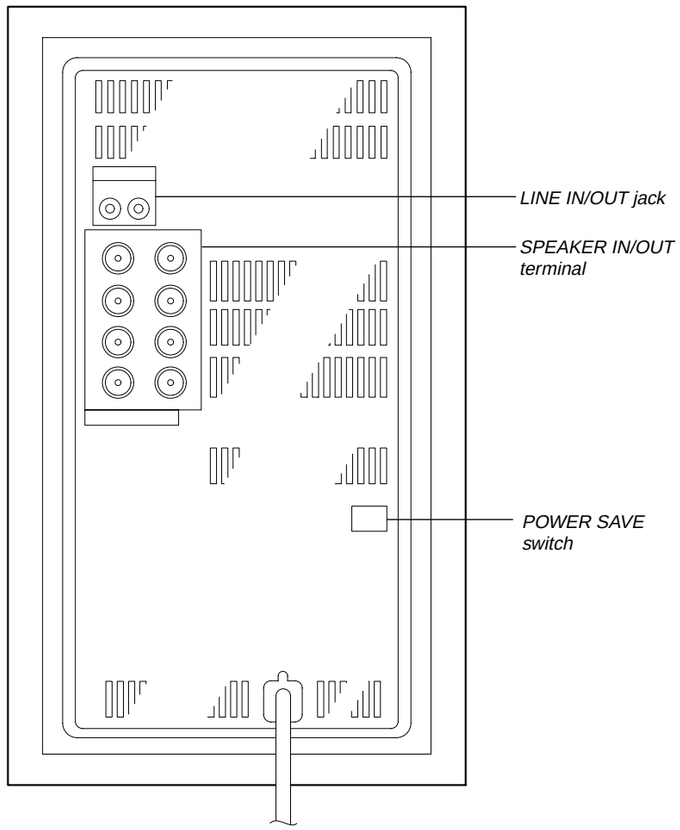
# SECTION 1
# GENERAL

- **Location of Controls**

**SA-WMS7**
**– Front view –**



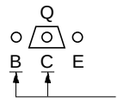

**– Rear view –**




# SECTION 2
# DIAGRAMS

## 2-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

**Note on Printed Wiring Board:**
- ○——— : parts extracted from the component side.
- ▒▒▒▒ : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)
- Indication of transistor.



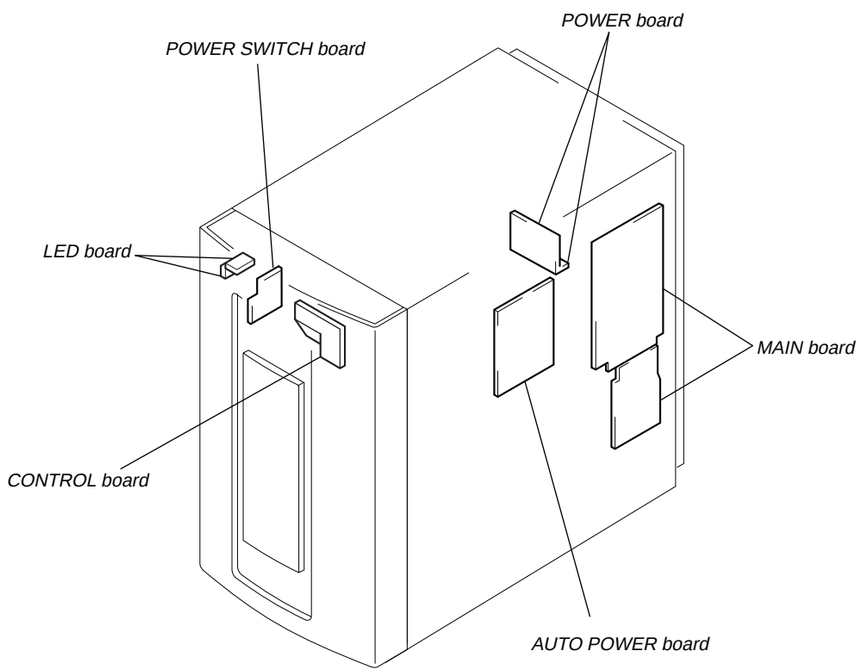

These are omitted.

**Note on Schematic Diagram:**
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ⎓ : nonflammable resistor.
- ▭ : panel designation.

| **Note:** | **Note:** |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié. |

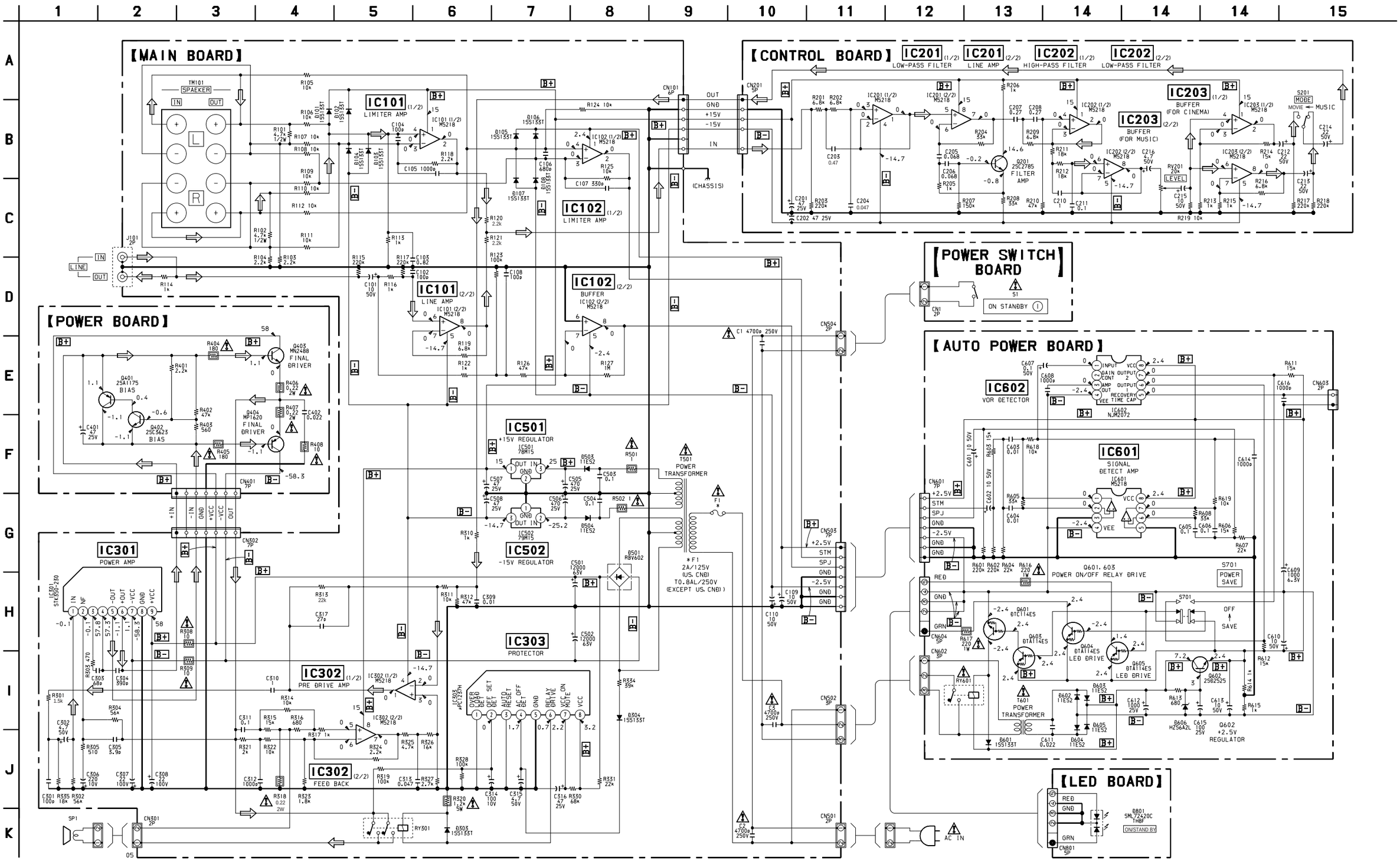
- B+ : B+ Line.
- B− : B– Line.
- Voltages are dc with respect to ground under no-signal conditions.
  no mark : AUDIO
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : AUDIO
- Abbreviation
  CND : Canadian

- **Circuit Boards Location**
  **SA-WMS7**



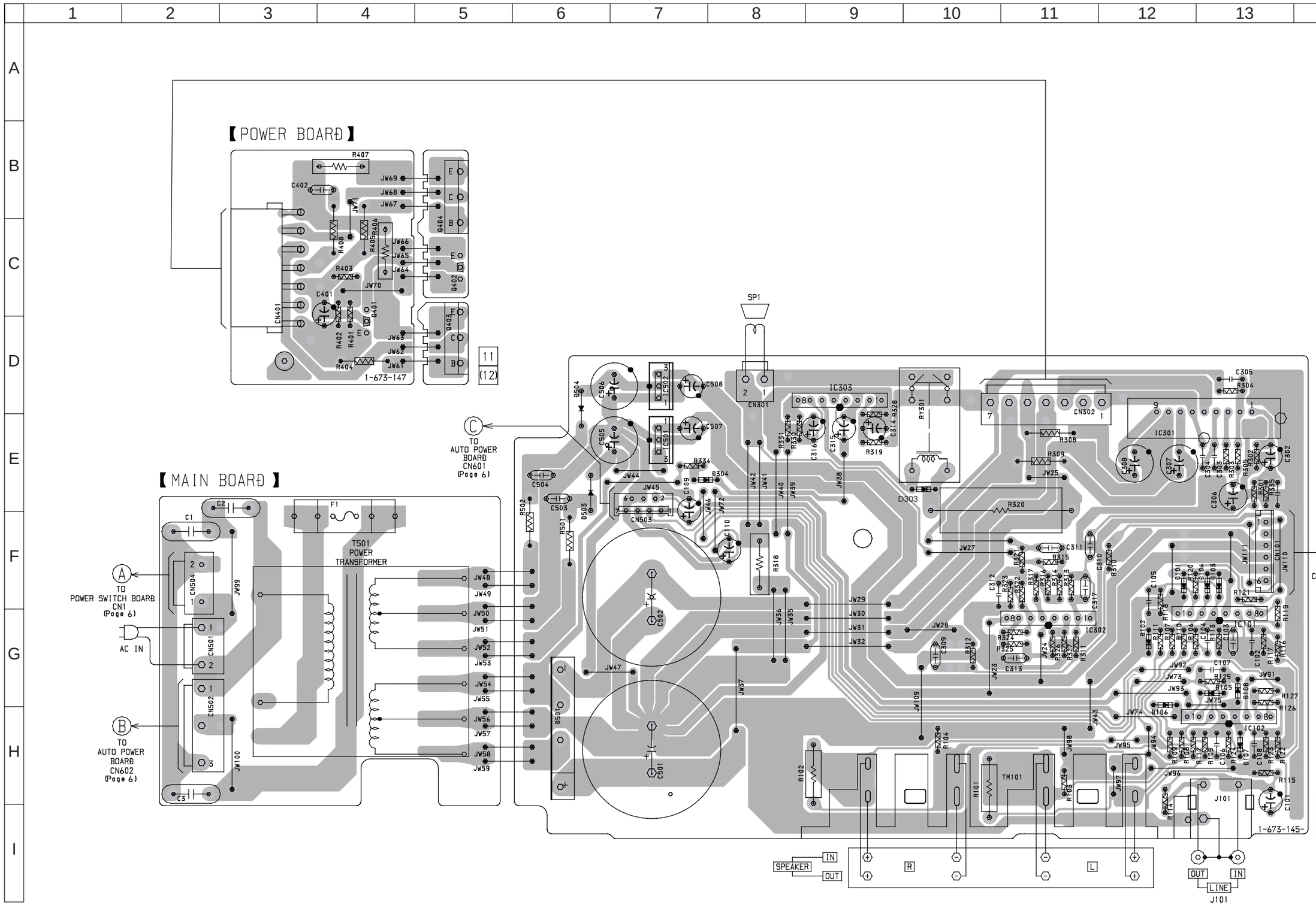
## 2-2. SCHEMATIC DIAGRAM

• See page 7 for IC Block Diagrams.




| | |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.<br>Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.<br>Ne les remplacer que par une pièce portant le numéro spécifié. |

**2-3. PRINTED WIRING BOARD MAIN SECTION** • See page 3 for Circuit Boards Location.

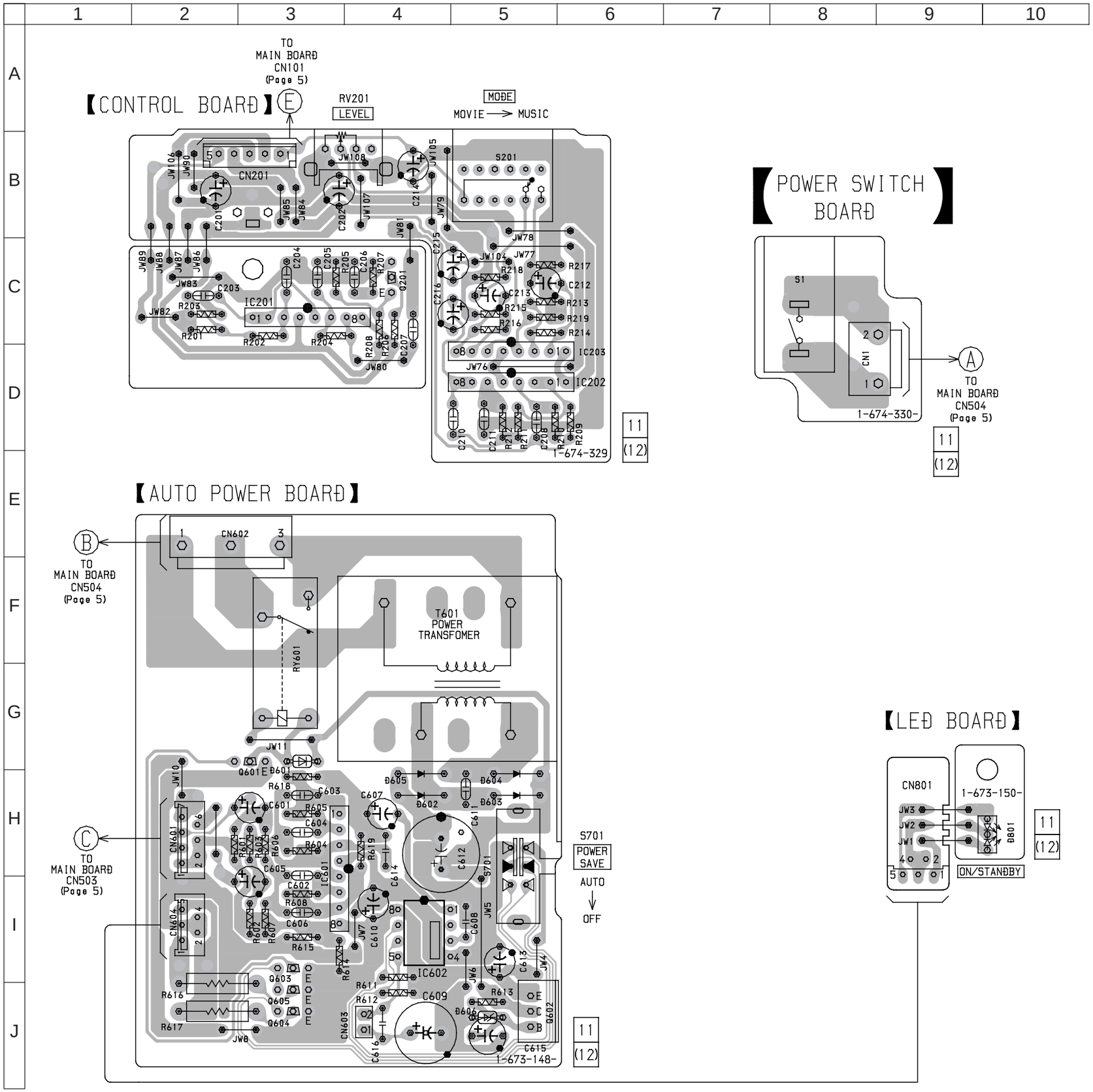



• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D101 | F-12 |
| D102 | G-12 |
| D103 | F-13 |
| D104 | F-13 |
| D105 | G-13 |
| D106 | G-12 |
| D107 | H-13 |
| D108 | G-13 |
| D303 | E-10 |
| D304 | E-7 |
| D501 | H-6 |
| D503 | E-6 |
| D504 | D-6 |
| IC101 | G-13 |
| IC102 | G-13 |
| IC301 | E-12 |
| IC302 | G-11 |
| IC303 | D-9 |
| IC501 | E-7 |
| IC502 | D-7 |
| Q401 | D-4 |
| Q402 | C-5 |
| Q403 | D-5 |
| Q404 | B-5 |

## 2-4. PRINTED WIRING BOARD CONTROL SECTION

• See page 3 for Circuit Boards Location. • See page 4 for Schematic Diagram.

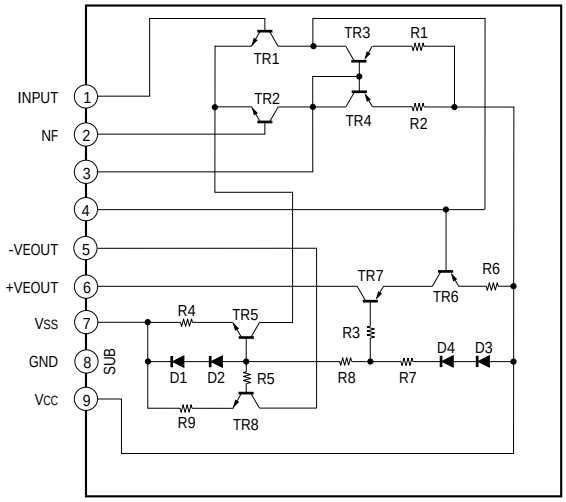



• **Semiconductor Location**

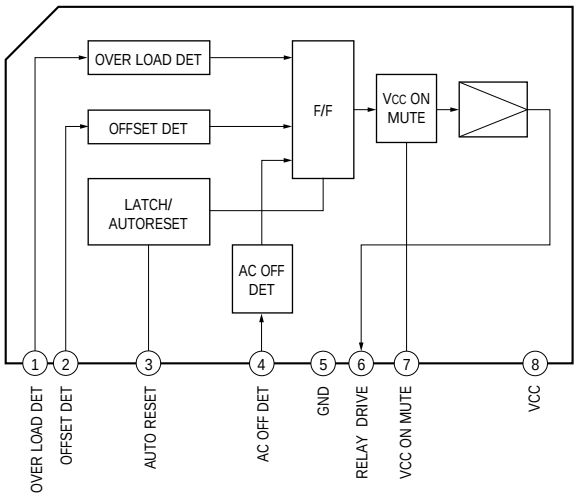
| Ref. No. | Location |
|---|---|
| D601 | G-3 |
| D602 | H-4 |
| D603 | H-5 |
| D604 | H-5 |
| D605 | H-4 |
| D606 | J-5 |
| D801 | H-10 |
| | |
| IC201 | C-3 |
| IC202 | D-5 |
| IC203 | D-5 |
| IC601 | H-3 |
| IC602 | I-4 |
| | |
| Q201 | C-4 |
| Q601 | G-3 |
| Q602 | J-5 |
| Q603 | I-3 |
| Q604 | J-3 |
| Q605 | J-3 |

• **IC Block Diagrams**

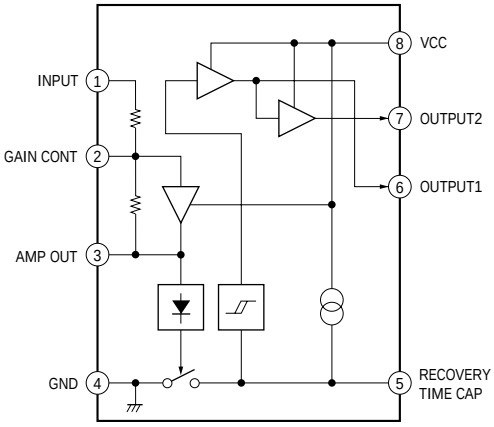
**IC301　STK350-230 (MAIN Board)**




**IC303　μPC1237HA (MAIN Board)**




**IC602　NJM2072D (AUTO POWER Board)**



Ver. 1.2

# SECTION 3
# EXPLODED VIEWS

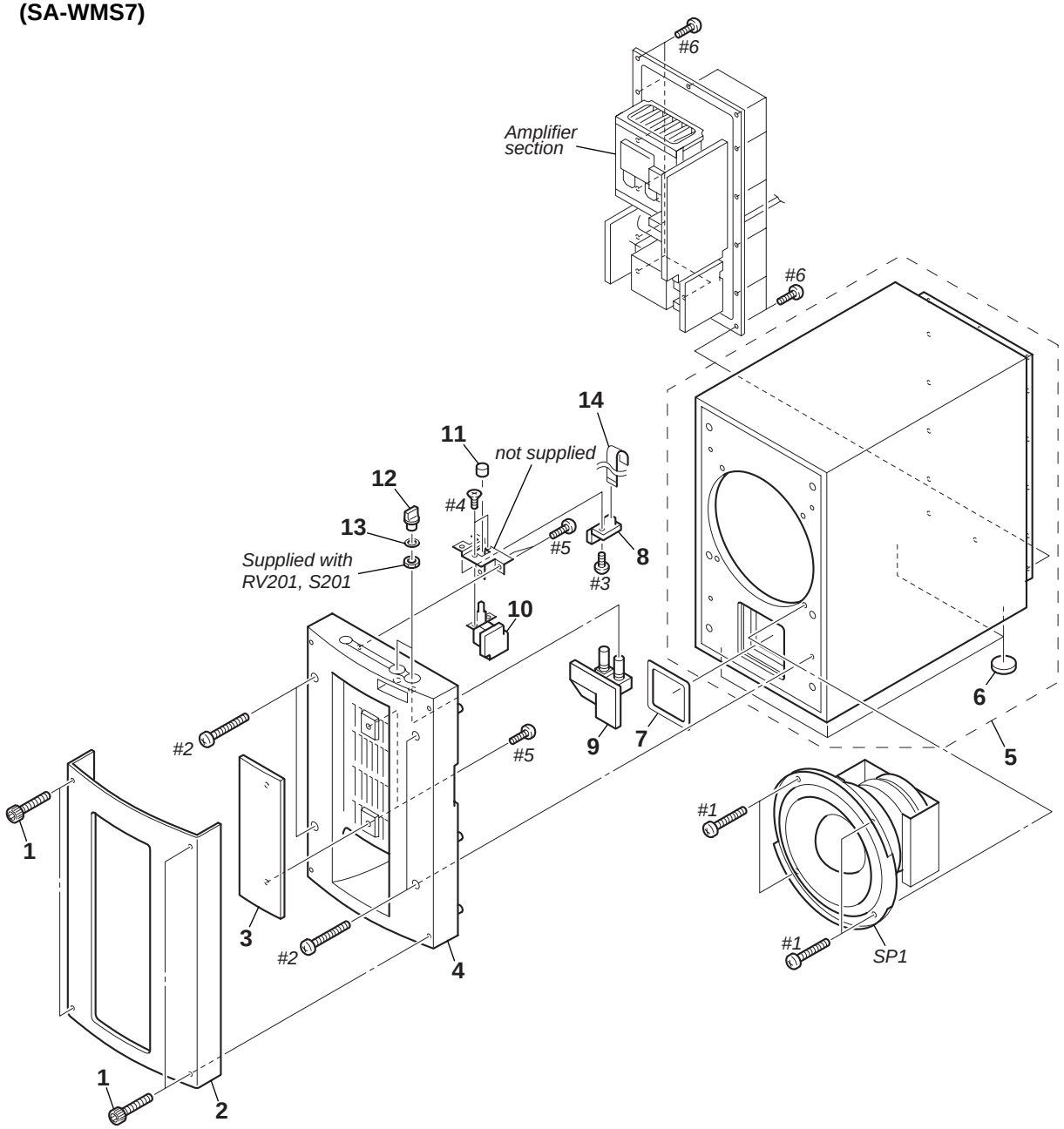
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian model
  G : German model
  MY : Malaysia model
  SP : Singapore model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

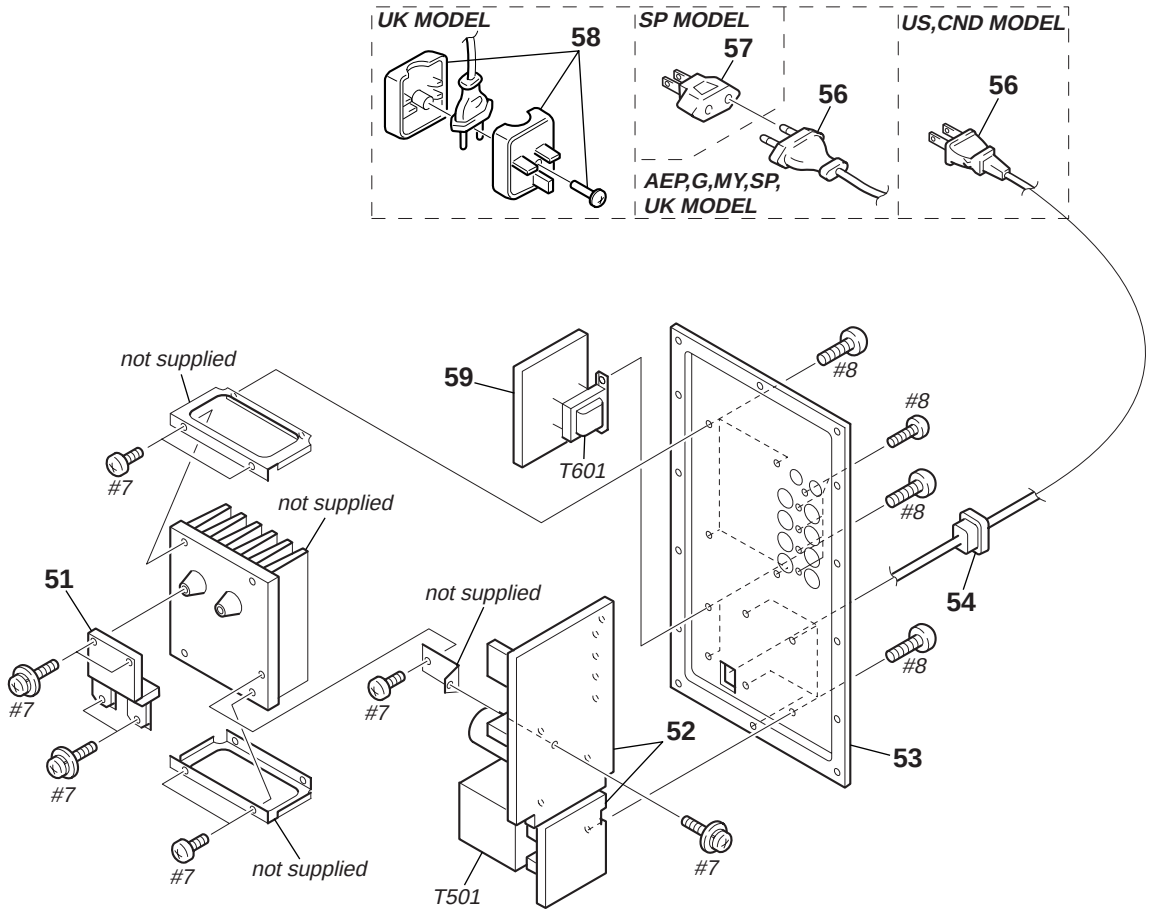
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

## (1) FRONT PANEL SECTION (SA-WMS7)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 4-222-422-01 | SCREW (4 × 16) | |
| 2 | 4-220-858-01 | PANEL(A), ORNAMENTAL | |
| 3 | 4-220-859-01 | PANEL(B), ORNAMENTAL | |
| 4 | X-4951-887-1 | PANEL ASSY, FRONT | |
| 5 | A-4411-710-A | CABINET ASSY, SPEAKER | |
| 6 | 4-981-864-01 | FOOT | |
| 7 | 4-222-467-01 | PACKING | |
| 8 | 1-673-150-11 | LED BOARD | |
| 9 | 1-674-329-11 | CONTROL BOARD | |
| 10 | 1-674-330-11 | POWER SWITCH BOARD | |
| 11 | 4-973-938-31 | KNOB(A), PUSH | |
| 12 | 4-999-482-11 | KNOB(VOL) | |
| 13 | 4-217-642-01 | SHEET | |
| 14 | 1-828-015-11 | WIRE (FLAT TYPE)(5 CORE) | |
| SP1 | 1-529-513-11 | SPEAKER | |

## (2) AMPLIFIER SECTION (SA-WMS7)

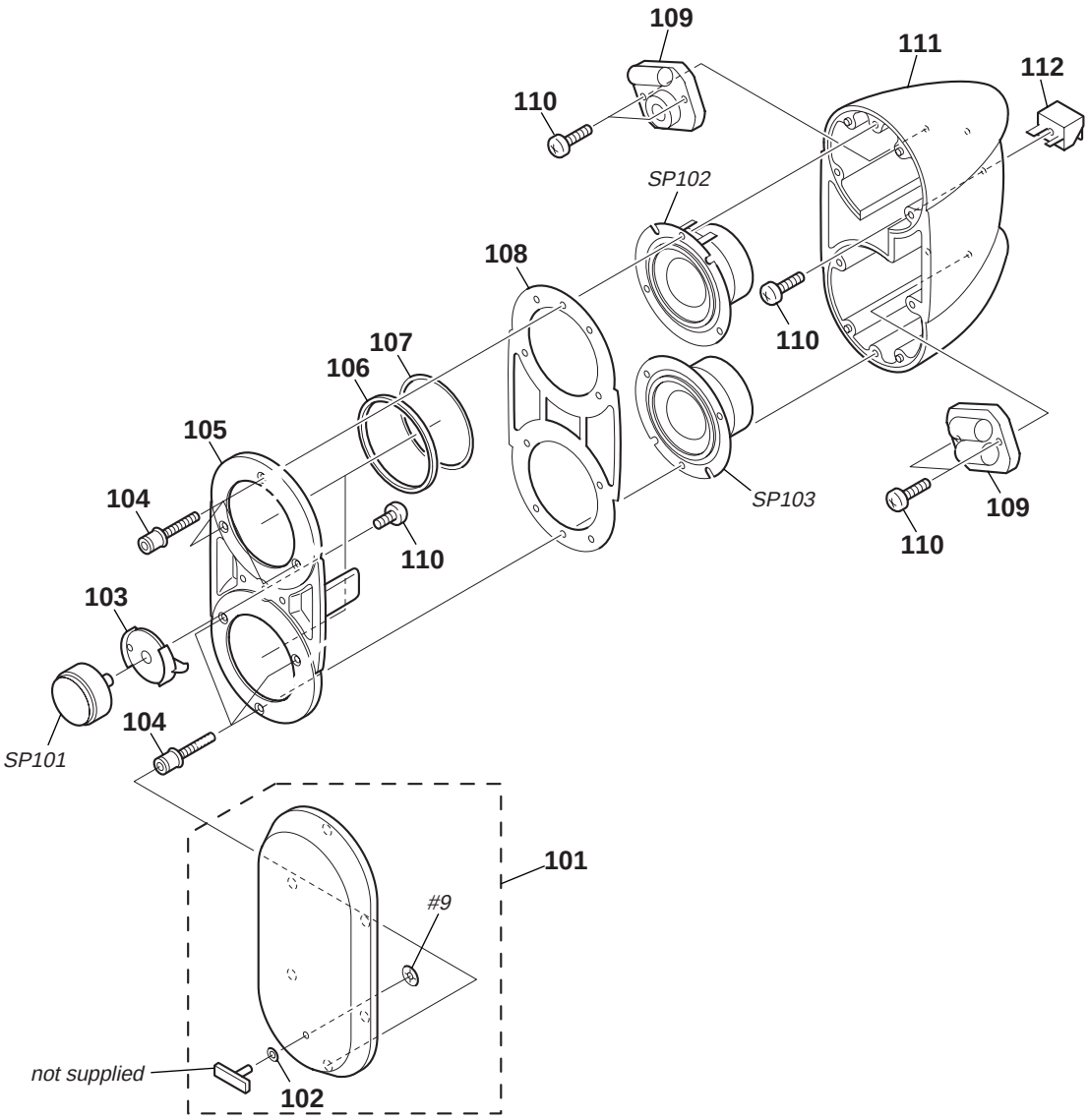



| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 1-673-147-11 | POWER BOARD | |
| 52 | A-4426-644-A | MAIN BOARD, COMPLETE | |
| 53 | 4-222-939-11 | PANEL, REAR (US,CND) | |
| 53 | 4-222-939-21 | PANEL, REAR (AEP,G,UK,MY,SP) | |
| * 54 | 3-703-244-00 | BUSHING (2104), CORD | |
| 55 | 3-710-901-11 | SCREW, TAPPING | |
| ⚠56 | 1-769-744-11 | CORD, POWER (AEP,G,UK,MY,SP) | |
| ⚠56 | 1-783-531-11 | CORD, POWER (US,CND) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| ⚠57 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (SP) | |
| ⚠58 | 1-770-019-21 | ADAPTOR, CONVERSION PLUG 3P (UK) | |
| 59 | A-4419-290-A | AUTO POWER BOARD, COMPLETE | |
| ⚠T501 | 1-433-726-11 | TRANSFORMER, POWER (US,CND) | |
| ⚠T501 | 1-433-728-12 | TRANSFORMER, POWER (AEP,G,UK,MY,SP) | |
| ⚠T601 | 1-433-731-11 | TRANSFORMER, POWER (US,CND) | |
| ⚠T601 | 1-433-732-11 | TRANSFORMER, POWER (AEP,G,UK,MY,SP) | |

| | |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.<br>Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.<br>Ne les remplacer que par une pièce portant le numéro spécifié. |

## (3) SS-MS7




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | X-4951-883-1 | FRAME ASSY, GRILLE | |
| 102 | 3-701-436-21 | WASHER POLYEHTHYLENE | |
| 103 | 4-220-786-01 | BASE, TW | |
| 104 | 4-220-784-01 | SCREW, ORNAMENTAL | |
| 105 | 4-220-779-01 | PANEL, FRONT | |
| 106 | 4-220-781-01 | RING | |
| 107 | 4-222-663-01 | PACKING | |
| 108 | 4-220-785-01 | PACKING | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 109 | 1-761-265-11 | MOUNTED PC BOARD (NETWORK) | |
| 110 | 4-986-971-11 | SCREW (3.5) | |
| 111 | 4-220-780-01 | CABINET | |
| 112 | 1-694-516-11 | TERMINAL, SPEAKER | |
| SP101 | 1-529-291-11 | SPEAKER (2.5cm) | |
| SP102 | 1-529-290-11 | SPEAKER (5cm) | |
| SP103 | 1-529-290-11 | SPEAKER (5cm) | |

# SECTION 4
# ELECTRICAL PARTS LIST

**AUTO POWER CONTROL**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CND : Canadian model
  SP : Singapore model
  G : German model
  MY : Malaysia model

- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH

When indicating parts by reference number, please include the board name.

- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | A-4419-290-A | AUTO POWER BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C601 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C602 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C603 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C604 | 1-162-306-11 | CERAMIC | 0.01uF | 20% | 16V |
| C605 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C606 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C607 | 1-126-956-91 | ELECT | 0.1uF | 20% | 50V |
| C608 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C609 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C610 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C611 | 1-161-494-00 | CERAMIC | 0.022uF | | 25V |
| C612 | 1-126-942-61 | ELECT | 1000uF | 20% | 25V |
| C613 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C614 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C615 | 1-104-665-11 | ELECT | 100uF | 20% | 25V |
| C616 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| | | < CONNECTOR > | | | |
| CN601 | 1-568-439-11 | SOCKET, CONNECTOR 7P | | | |
| * CN602 | 1-564-687-11 | PIN, CONNECTOR 3P | | | |
| * CN603 | 1-565-513-11 | PIN, CONNECTOR 2P | | | |
| CN604 | 1-569-315-11 | SOCKET, CONNECTOR 5P | | | |
| * CN605 | 1-565-514-11 | SOCKET, CONNECTOR 2P | | | |
| | | < DIODE > | | | |
| D601 | 8-719-991-33 | DIODE 1SS133T-77 | | | |
| D602 | 8-719-200-82 | DIODE 11ES2 | | | |
| D603 | 8-719-200-82 | DIODE 11ES2 | | | |
| D604 | 8-719-200-82 | DIODE 11ES2 | | | |
| D605 | 8-719-200-82 | DIODE 11ES2 | | | |
| D606 | 8-719-985-85 | DIODE HZS6A2L | | | |
| | | < IC > | | | |
| IC601 | 8-759-634-50 | IC M5218AL | | | |
| IC602 | 8-759-701-55 | IC NJM2072D | | | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | |
| Q601 | 8-729-029-66 | TRANSISTOR DTC114ES | | | |
| Q602 | 8-729-026-68 | TRANSISTOR 2SD2525 | | | |
| Q603 | 8-729-422-57 | TRANSISTOR DTA114ES | | | |
| Q604 | 8-729-422-57 | TRANSISTOR DTA114ES | | | |
| Q605 | 8-729-422-57 | TRANSISTOR DTA114ES | | | |
| | | < RESISTOR > | | | |
| R601 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R602 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R603 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R604 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R605 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R606 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R607 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R608 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R611 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R612 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R613 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W F |
| R614 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R615 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| ⚠R616 | 1-215-865-81 | METAL OXIDE | 220 | 5% | 1W |
| ⚠R617 | 1-215-865-81 | METAL OXIDE | 220 | 5% | 1W |
| R618 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R619 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | < RELAY > | | | |
| RY601 | 1-755-276-11 | RELAY, POWER | | | |
| | | < SWITCH > | | | |
| S701 | 1-570-707-31 | SWITCH, SLIDE (POWER SAVE) | | | |
| | | ********** | | | |
| | 1-674-329-11 | CONTROL BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C201 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C202 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C203 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C204 | 1-136-161-00 | FILM | 0.047uF | 5% | 50V |
| C205 | 1-136-163-00 | FILM | 0.068uF | 5% | 50V |

# CONTROL LED MAIN

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C206 | 1-136-163-00 | FILM | 0.068uF | 5% | 50V |
| C207 | 1-136-170-00 | FILM | 0.27uF | 5% | 50V |
| C208 | 1-136-170-00 | FILM | 0.27uF | 5% | 50V |
| C210 | 1-136-177-00 | FILM | 1uF | 5% | 50V |
| C211 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C212 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C213 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C214 | 1-126-965-11 | ELECT | 22uF | 20% | 50V |
| C215 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C216 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| | | < CONNECTOR > | | | |
| * CN201 | 1-564-520-11 | PLUG, CONNECTOR 5P | | | |
| | | < IC > | | | |
| IC201 | 8-759-634-50 | IC M5218AL | | | |
| IC202 | 8-759-634-50 | IC M5218AL | | | |
| IC203 | 8-759-634-50 | IC M5218AL | | | |
| | | < TRANSISTOR > | | | |
| Q201 | 8-729-178-55 | TRANSISTOR 2SC2785-E | | | |
| | | < RESISTOR > | | | |
| R201 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W F |
| R202 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W F |
| R203 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R204 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R205 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R206 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R207 | 1-247-883-00 | CARBON | 150K | 5% | 1/4W |
| R208 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W |
| R209 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W F |
| R210 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R211 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R212 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| R213 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R214 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R215 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R216 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W F |
| R217 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R218 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R219 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| | | < VARIABLE RESISTOR > | | | |
| RV201 | 1-225-826-11 | RES, VAR, CARBON 20K (LEVEL) | | | |
| | | < SWITCH > | | | |
| S201 | 1-771-632-11 | SWITCH, ROTARY (MODE) | | | |

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| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | 1-673-150-11 | LED BOARD | |
| | | ********** | |
| | | < CONNECTOR > | |
| CN801 | 1-569-299-11 | SOCKET, CONNECTOR (L TYPE) 5P | |
| | | < LED > | |
| D801 | 8-719-061-31 | LED SML72420CTH8F (POWER ON/SAVE) | |

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| | | | |
|---|---|---|---|
| | A-4426-644-A | MAIN BOARD, COMPLETE | |
| | | ********** | |
| | 1-533-233-11 | HOLDER, FUSE | |
| | | < CAPACITOR > | |

| | | | | | |
|---|---|---|---|---|---|
| ⚠C1 | 1-113-924-11 | CERAMIC | 0.0047uF | 20% | 250V |
| ⚠C2 | 1-113-924-11 | CERAMIC | 0.0047uF | 20% | 250V |
| ⚠C3 | 1-113-924-11 | CERAMIC | 0.0047uF | 20% | 250V |
| C101 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C102 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C103 | 1-136-176-00 | FILM | 0.82uF | 5% | 50V |
| C104 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C105 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C106 | 1-162-292-31 | CERAMIC | 680PF | 10% | 50V |
| C107 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V |
| C108 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C109 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C110 | 1-126-964-11 | ELECT | 10uF | 20% | 50V |
| C301 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C302 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C303 | 1-162-219-31 | CERAMIC | 68PF | 5% | 50V |
| C304 | 1-162-289-31 | CERAMIC | 390PF | 10% | 50V |
| C305 | 1-162-194-31 | CERAMIC | 3.9PF | 10% | 50V |
| C306 | 1-126-934-11 | ELECT | 220uF | 20% | 10V |
| C307 | 1-128-560-11 | ELECT | 22uF | 20% | 100V |
| C308 | 1-128-560-11 | ELECT | 22uF | 20% | 100V |
| C309 | 1-130-483-00 | MYLAR | 0.01uF | 5% | 50V |
| C310 | 1-136-177-00 | FILM | 1uF | 5% | 50V |
| C311 | 1-130-495-00 | MYLAR | 0.1uF | 5% | 50V |
| C312 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V |
| C313 | 1-130-491-00 | MYLAR | 0.047uF | 5% | 50V |
| C314 | 1-104-665-11 | ELECT | 100uF | 20% | 10V |
| C315 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C316 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C501 | 1-127-891-11 | ELECT | 12000uF | 20% | 63V |
| C502 | 1-127-891-11 | ELECT | 12000uF | 20% | 63V |
| C503 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C504 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C505 | 1-126-941-11 | ELECT | 470uF | 20% | 25V |
| C506 | 1-126-941-11 | ELECT | 470uF | 20% | 25V |
| C507 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C508 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |

| | |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.<br>Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.<br>Ne les remplacer que par une pièce portant le numéro spécifié. |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < CONNECTOR > | |
| * CN101 | 1-564-521-11 | PLUG, CONNECTOR 6P | |
| * CN301 | 1-565-792-11 | PIN, CONNECTOR 2P | |
| * CN302 | 1-564-242-00 | PIN, CONNECTOR 5P | |
| CN501 | 1-564-321-00 | PIN, CONNECTOR 2P | |
| * CN502 | 1-564-687-11 | PIN, CONNECTOR 3P | |
| CN503 | 1-568-439-11 | SOCKET, CONNECTOR 7P | |
| * CN504 | 1-580-230-11 | PIN, CONNECTOR (PC BOARD) 2P | |
| | | < DIODE > | |
| D101 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D102 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D103 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D104 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D105 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D106 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D107 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D108 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D303 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D304 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D501 | 8-719-302-37 | DIODE RBV-602 | |
| D503 | 8-719-200-82 | DIODE 11ES2 | |
| D504 | 8-719-200-82 | DIODE 11ES2 | |
| | | < FUSE > | |
| ⚠ F1 | 1-532-501-31 | FUSE (T0.8AL/250V)(AEP,G,UK,MY,SP) | |
| ⚠ F1 | 1-533-296-11 | FUSE,GLASS CYLINDRICAL(DIA.5)(2A/125V) | (US,CND) |
| | | < IC > | |
| IC101 | 8-759-634-50 | IC M5218AL | |
| IC102 | 8-759-634-50 | IC M5218AL | |
| IC301 | 8-749-011-16 | IC STK350-230 | |
| IC302 | 8-759-634-50 | IC M5218AL | |
| IC303 | 8-759-111-68 | IC uPC1237HA | |
| IC501 | 8-759-604-40 | IC M5F78M15L | |
| IC502 | 8-759-604-46 | IC M5F79M15L | |
| | | < JACK > | |
| J101 | 1-785-795-11 | JACK, PIN 2P (LINE IN/OUT) | |
| | | < RESISTOR > | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R101 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R102 | 1-260-107-11 | CARBON | 4.7K | 5% | 1/2W |
| R103 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R104 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R105 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R106 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R107 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R108 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R109 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R110 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R111 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R112 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R113 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R114 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R115 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R116 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R117 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R118 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R119 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W F |
| R120 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R121 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R122 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R123 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R124 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R125 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R126 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R127 | 1-247-903-00 | CARBON | 1M | 5% | 1/4W |
| R301 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W F |
| R302 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R303 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W F |
| R304 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W |
| R305 | 1-249-442-11 | CARBON | 510 | 5% | 1/4W |
| ⚠ R308 | 1-247-688-11 | CARBON | 10 | 5% | 1/4W F |
| ⚠ R309 | 1-247-688-11 | CARBON | 10 | 5% | 1/4W F |
| R310 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| R311 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R312 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R313 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R314 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R315 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R316 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W F |
| R317 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W F |
| ⚠ R318 | 1-217-151-00 | METAL | 0.22 | 10% | 2W |
| R319 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R320 | 1-216-505-51 | METAL OXIDE | 1.2K | 5% | 5W F |
| R321 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W |
| R322 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R323 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W F |
| R324 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R325 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W F |
| R326 | 1-247-860-11 | CARBON | 16K | 5% | 1/4W |
| R327 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W F |
| R328 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R330 | 1-249-439-11 | CARBON | 68K | 5% | 1/4W |
| R331 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W |
| R334 | 1-249-436-11 | CARBON | 39K | 5% | 1/4W |
| R335 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W |
| ⚠ R501 | 1-249-381-11 | CARBON | 1 | 5% | 1/4W F |
| ⚠ R502 | 1-249-381-11 | CARBON | 1 | 5% | 1/4W F |
| | | < RELAY > | | | |
| RY301 | 1-515-920-11 | RELAY (24V) | | | |
| | | < TERMINAL > | | | |
| TM101 | 1-537-737-11 | TERMINAL BOARD (SPEAKER) | | | |

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|---|---|
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# POWER SWITCH

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | 1-673-147-11 | POWER BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C401 | 1-104-664-11 | ELECT | 47uF | 20% | 25V |
| C402 | 1-137-372-11 | FILM | 0.022uF | 5% | 50V |
| | | < CONNECTOR > | | | |
| * CN401 | 1-770-318-11 | PIN, CONNECTOR 7P | | | |
| | | < TRANSISTOR > | | | |
| Q401 | 8-729-119-76 | TRANSISTOR 2SA1175-F | | | |
| Q402 | 8-729-141-30 | TRANSISTOR 2SC3623ATP-LK | | | |
| Q403 | 8-749-010-25 | IC MN2488-OPY-M | | | |
| Q404 | 8-749-010-26 | IC MP1620-OPY-M | | | |
| | | < RESISTOR > | | | |
| R401 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W F |
| R402 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R403 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W F |
| ⚠R404 | 1-249-408-11 | CARBON | 180 | 5% | 1/4W F |
| ⚠R405 | 1-249-408-11 | CARBON | 180 | 5% | 1/4W F |
| ⚠R406 | 1-217-151-00 | METAL | 0.22 | 10% | 2W |
| ⚠R407 | 1-217-151-00 | METAL | 0.22 | 10% | 2W |
| ⚠R408 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W F |
| ********** | | | | | |
| | 1-674-330-11 | POWER SWITCH BOARD | | | |
| | | ********** | | | |
| | | < SWITCH > | | | |
| ⚠S1 | 1-554-920-11 | SWITCH, PUSH (AC POWER)(1 KEY) | | | (ON/STANDBY) |
| | | < CONNECTOR > | | | |
| CN1 | 1-564-321-00 | PIN, CONNECTOR 2P | | | |
| ********** | | | | | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | MISCELLANEOUS | |
| | | ********** | |
| 14 | 1-824-346-11 | WIRE,FLAT TYPE 5P | |
| ⚠56 | 1-769-744-11 | CORD, POWER (AEP,G,UK,MY,SP) | |
| ⚠56 | 1-783-531-11 | CORD, POWER (US,CND) | |
| ⚠57 | 1-569-008-21 | ADAPTOR, CONVERSION 2P (SP) | |
| ⚠58 | 1-770-019-21 | ADAPTOR, CONVERSION PLUG 3P (UK) | |
| 112 | 1-694-516-11 | TERMINAL, SPEAKER | |
| SP1 | 1-529-513-11 | SPEAKER | |
| SP101 | 1-529-291-11 | SPEAKER (2.5cm) | |
| SP102 | 1-529-290-11 | SPEAKER (5cm) | |
| SP103 | 1-529-290-11 | SPEAKER (5cm) | |
| ⚠T501 | 1-433-726-11 | TRANSFORMER, POWER (US,CND) | |
| ⚠T501 | 1-433-728-12 | TRANSFORMER, POWER (AEP,G,UK,MY,SP) | |
| ⚠T601 | 1-433-731-11 | TRANSFORMER, POWER (US,CND) | |
| ⚠T601 | 1-433-732-11 | TRANSFORMER, POWER (AEP,G,UK,MY,SP) | |
| ********** | | | |
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ********** | |
| | 1-769-329-21 | CORD, CONNECTION (PIN-PIN) | |
| | 1-791-467-11 | CORD, SPEAKER (10m)(VE705) | |
| | 1-791-467-21 | CORD, SPEAKER (2.5m) | |
| | 3-867-384-11 | MANUAL, INSTRUCTION (ENGLISH,FRENCH) | |
| | 3-867-384-21 | MANUAL, INSTRUCTION (GERMAN,SPANISH,DUTCH,SWEDISH,ITALIAN, PORTUGUESE,POLISH,RUSSIAN,DANISH, FINNISH,CHINESE)(AEP,G,UK,MY,SP) | |
| | 4-222-421-01 | SCREW (5 × 18), HEXAGON SOCKET | |
| * | 4-985-459-01 | WRENCH, HEXAGON SHAFT | |
| | X-4951-969-1 | FRAME ASSY, GRILLE | |
| | X-4952-023-1 | STAND (V) ASSY | |
| | X-4952-024-1 | STAND (H) ASSY (VE705) | |
| ********** | | | |
| | | ********** | |
| | | HARDWARE LIST | |
| | | ********** | |
| #1 | 7-685-664-79 | SCREW +P 4 × 20 TYPE1 | |
| #2 | 7-685-165-01 | SCREW +PTP 4 × 25 TYPE1 | |
| #3 | 7-685-645-79 | SCREW +P 3 × 6 TYPE2 SLIT | |
| #4 | 7-682-147-01 | SCREW +P 3 × 6 | |
| #5 | 7-685-146-29 | SCREW +P 3 × 8 TYPE2 SLIT | |
| #6 | 7-685-648-79 | SCREW +P 3 × 12 TYPE2 NON-SLIT | |
| #7 | 7-685-647-79 | SCREW +P 3 × 10 TYPE2 NON-SLIT | |
| #8 | 7-685-660-19 | SCREW +BVTP 4 × 10 TYPE2 N-S | |
| #9 | 7-624-200-01 | NUT, PUSH 1.5 | |

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# SA-VE702/VE705/ WMS7/SS-MS7

SONY

# SERVICE MANUAL

*US Model*
*Canadian Model*
*AEP Model*
*UK Model*
*E Model*

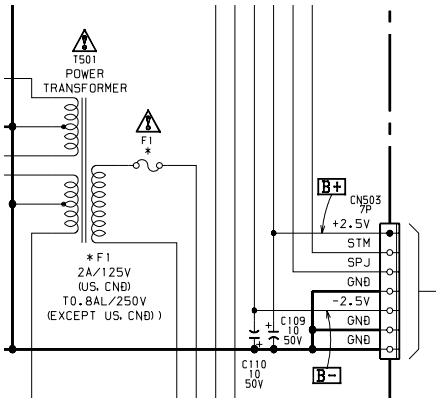
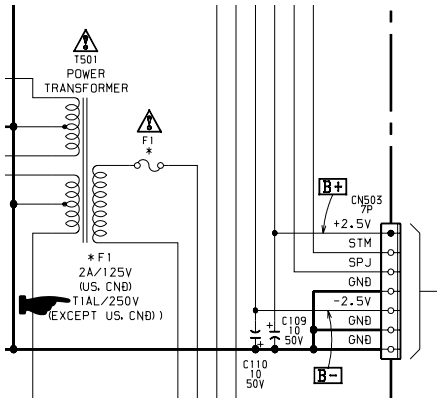
# SUPPLEMENT-1

**File this supplement with the service manual.**

**Subject: Change of the Fuse**

(ENG-00001)

☛ **: Indicates changed portion.**

| Page | Before Change | After Change |
|---|---|---|
| 4 | Location: F – H, 8 – 11<br>  | Location: F – H, 8 – 11<br>  |
| 13 | Ref. No. Part No. Description<br>⚠F1 1-532-501-31 FUSE (T0.8AL/250V) (EXCEPT US, Canadian) | Ref. No. Part No. Description<br>⚠F1 1-532-463-11 FUSE (T1AL/250V) (EXCEPT US, Canadian) |

| | |
|---|---|
| The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified. | Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié. |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**Audio Entertainment Group**

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# REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

| Ver. | Date | Description of Revision |
|---|---|---|
| 1.0 | 1999.07 | New |
| | 2000.11 | Suppliment-1 (ENG-00001) |
| 1.1 | 2002.10 | Addition of Ref. No. 14 (SPM-02078) |
| 1.2 | 2005.01 | Change of Part No. Ref. No 14 (SPM-05003) |
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